

# User Manual ALFA 21 and ALFANET 21

Cool/Heat  
Thermostat  
0-100°C



VDH doc: 070706

Version: v1.0

Date: 04-07-2007

Software: 053273\_ALFA 11/21/31 0-100 File: Do070706.wpd

Range: 0/+100°C per 1°C

## \* Function.

The **ALFA(NET) 21** is a digital thermostat for panel mounting. The function from the thermostat can be programmed for cooling or heating.

The **ALFANET 21** has a RS 485 network connection so it can be read out and adjusted on the Alfanet.

## \* Installation.

On the topside of the **ALFA(NET) 21** is shown how the sensor, power supply and relay have to be connected.

After connecting the **ALFA(NET) 21** to the power supply, a self-test function is started. As this test is finished, the measured temperature appears in the display. When the relay is activated, the led 'on' will light-up in the display.

## \* Control.

The **ALFA(NET) 21** Thermostat can be controlled by three push buttons on the front.

These keys are:

**SET** - view / change the setpoint.

**UP** - increase the setpoint.

**DOWN** - decrease the setpoint.



## \* **Viewing setpoint.**

By pushing the **SET** key the setpoint appears in the display. The led 'set' starts blinking. A few seconds after releasing the **SET** key the setpoint disappears and the measured temperature is shown in the display.

## \* **Changing setpoint.**

Push the **SET** key and the setpoint appears in the display. Release the at **SET** key. Now push the **SET** key again and together with the **UP** or **DOWN** keys the setpoint can be changed. A few seconds after releasing the keys the measured temperature shows again in the display.

## \* **Setting internal parameters.**

Next to the adjustment of the setpoint, some internal settings are possible like differential, sensor-offset, setpoint range and the function cooling or heating.

By pushing the **DOWN** key more than 10 seconds, you enter the 'internal programming menu'. In the left display the upper and lower segment are blinking. Over the **UP** and **DOWN** keys the required parameter can be selected (see table for the parameters).

If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** or **DOWN** keys together with the **SET** key allows you to change the value of this parameter.

If after 20 seconds no key is pushed, the **ALFA(NET) 21** changes to it's normal operation mode.

## \* **Parameters ALFA(NET) 21.**

Parameter	Description Parameter	Range	Standard Value
01	Switching differential	1..30°C	3
02	Minimum setpoint	0..+100°C	0
03	Maximum setpoint	0..+100°C	+100
04	Offset temperature sensor	-15..+15°C	0
10	Startup delay after power failure	0..99 Minutes	0
11	Relays on at sensor failure	0 = No, 1 = Yes	0
15	Function cooling or heating	0 = Cool 1 = Heat	0
16	Switch on delay relays 1)	0..99	0
17	Switch off delay relays 1)	0..99	0
18	Parameter 16/17 in sec. or min.	0 = Seconds 1 = Minutes	0
19	Minimum on-time relays	0..99 Minutes	0
20	Minimum off-time relays	0..99 Minutes	0
90	Network number	1..250	1
95	Software version	0..255	-
96	Production year	00..99	-
97	Production week	1..52	-
98	Serial number (x1000)	0..255	-
99	Serial number (units)	0..999	-

1) During delay time the LED 'on' is flashing.



## \* **Adjustment sensor.**

The sensor can be adjusted by using the Sensor Offset (parameter 04). Indicates the **ALFA(NET) 21** e.g. 2°C too much, the Sensor Offset has to be decreased with 2°C.

## \* **Error messages.**

In the display of the **ALFA(NET) 21** the following error messages can appear:

**Er** - Sensor broken. Solution:

- Check if the sensor is connected correctly.
- Check the sensor (1000Ω at 25°C).
- Replace the sensor.

**EE** - Settings are lost. Solution:

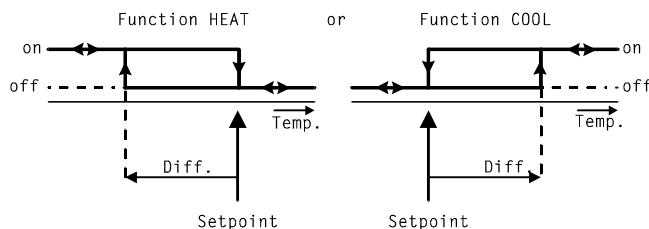
- Reprogram the settings.

## \* **Technical details.**

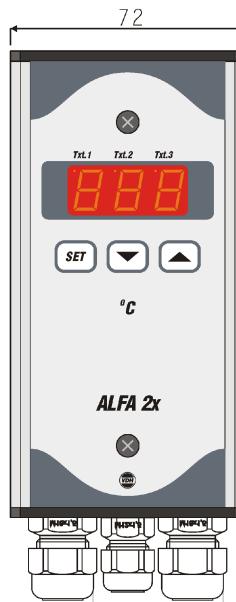
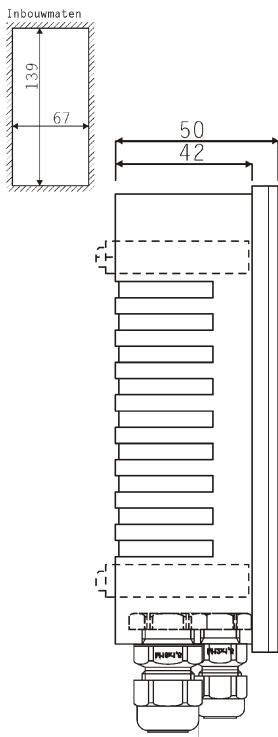
Model	: ALFA 21 Cool/Heat Thermostat ALFANET 21 Cool/Heat thermostat with Network
Range	: 0/+100°C, readout per 1°C
Supply	: 230 Vac 50/60Hz
Relay	: SPDT 250V/16A(C-NO), 8A(C-NC) (cos phi=1)
Control	: by push buttons on the front.
Communication	: RS485-Network (2x twisted pair shielded, min. 0,75mm²)
Front	: Polycarbonate
Sensor	: SM 811/2m (1000Ω at 25°C)
Dimensions	: 144 x 72 x 50mm (hbd)
Panel hole	: 139 x 67mm (hb) bij voordeur in front

- Provided with memory protection during power failure.
- Connection with screw terminals on the back side.
- Equipped with self test function and sensor failure detection.
- Special version on request available.

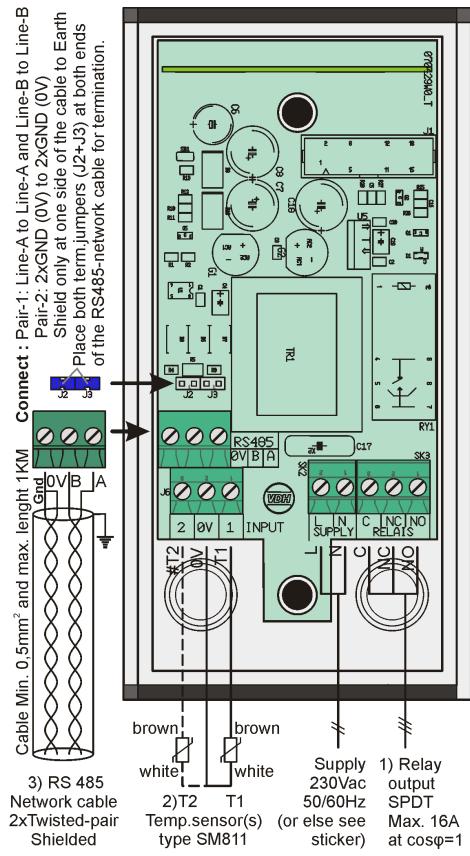
## \* **Function Diagram.**



## \* Dimensions.



## \* Connections.

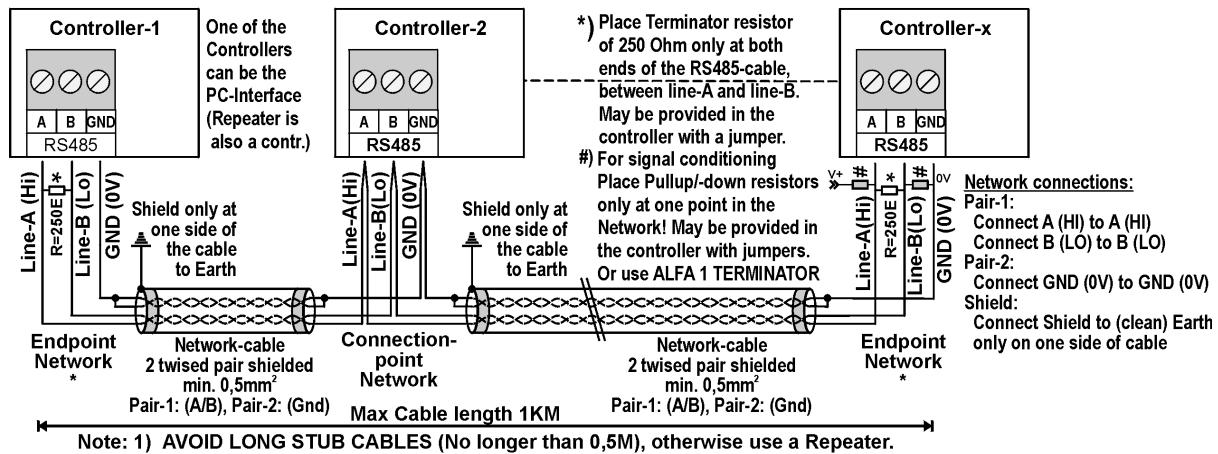


Remarks: 1) No relay on ALFA(NET) 20

2) Optional second sensor

3) RS485 only at ALFANET-series

## RS 485 NETWORK CONNECTIONS 2-twisted pair shielded cable:



## \* Adresse.

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